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CORRESPONDENCE

Ondansetron-induced migraine-type headache

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To the Editor,

We read with interest the article by Sharma *et al*. in which they attribute symptoms mimicking a postdural puncture headache to the administration of ondansetron.[1] We again highlight this clinically relevant though understated side effect of ondansetron. We present a case of severe migraine that was precipitated in a young female following the administration of ondansetron for the prophylaxis of postoperative nausea and vomiting (PONV). Consent to publish details about this case was obtained from the patient.

A 26-yr-old female was admitted for débridement of an infected wound following a cat scratch to her hand. Her medical history included depression, mild asthma, and occasional migraines. Physical examination and investigations were unremarkable except for an elevated C-reactive protein. Anesthesia was induced intravenously with fentanyl and propofol, a laryngeal mask airway device (LMAD) was inserted, and anesthesia was maintained with sevoflurane in an air-oxygen mixture. Spontaneous breathing was maintained throughout the procedure, which lasted approximately 45 min. Five minutes before the end of the procedure, dexamethasone 8 mg and ondansetron 4 mg were administered for the prophylaxis of PONV. The patient's vital signs remained stable and the LMAD was removed uneventfully after about ten minutes administation of ondansetron . However, approximately ten minutes later, the patient began complaining of a severe throbbing headache that was reported as frontal in location and associated with mild photophobia and nausea. The patient described the headache as similar to her previous migraine attacks. The symptoms lasted for about 30 min and responded to treatment with oral codeine and intravenous fluids. Three days later, the patient received the same anesthetic for a repeat débridement, including ondansetron 4 mg. The same type of headache recurred after anesthesia; the symptoms lasted for about 20 min and again responded to oral codeine.

Owing to the ongoing infection of her wound, the patient underwent an additional three débridements within the next ten days. Ondansetron was omitted on all three occasions, as it was felt that this could have precipitated her headaches in the initial two postoperative recovery periods. After each of these anesthetics, the patient woke without any headache and was soon discharged to the ward. On follow up visits, she expressed her satisfaction with the anesthetic regime that was used on the previous three occasions.

Ondansetron is a 5-hydroxytyptamine (5-HT) type 3 receptor antagonist drug commonly used for the prophylaxis and treatment of PONV.[2] Headache is the most commonly reported side effect of ondansetron.[3] The exact mechanism of ondansetron-induced headache is not known; a weak 5-HT1 antagonistic effect may precipitate headache in susceptible individuals, including migraine sufferers and postoperative patients who are exposed to

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caffeine withdrawal due to fasting requirements for general anesthesia.[4] The headache might mimic postdural puncture headache[1]. Our patient had a medical history of migraine, which has been suggested as a risk factor for the development of headache in children after the administration of ondansetron.[5] In our patient, disequilibrium or interaction with the 5-HT receptors in the brain could have triggered her migraine following the use of ondansetron on the initial two occasions. Discontinuing ondansetron from the anesthetic regime removed the possible trigger for the patient's migraine. Along with ensuring patient comfort and satisfaction, it also reduced the time she spent in the postanesthesia care unit from 45 min to about 15 min. Recently, ondansetron has been used more frequently as the first-line anti-emetic due to its ease of use, effectiveness, and side effect profile. However, in patients with a history of migraine or debilitating headache, our case suggests that ondansetron should be used as a second- or third-line agent for treatment of PONV and not as a routine drug for PONV prophylaxis.

Competing interests None declared.

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